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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/660,386	09/12/2000	Vladislav Vashchenko	NSC1-H1200	6925

33402 7590 02/23/2005

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EXAMINER	
NADAV, ORI	

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/660,386	VASHCHENKO ET AL.	
	Examiner	Art Unit	
	ori nadav	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2004*.

2a)☒ This action is FINAL. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9 and 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> **(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.**

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 9 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ker et al. (6,011,681).

Regarding claims 16-17 and 19, Ker et al. teach in figure 11 and related text a device comprising a semiconductor substrate of a first conductivity type P having a surface, a first well region (the N-well to the left of NSCR1) of a second conductivity type N disposed in the semiconductor substrate, a second well region (the N-well to the right of

NSCR1) of the second conductivity type disposed in the semiconductor and being spaced apart from the first well,

a gap region of the semiconductor material located only between the first and second well regions, the gap region contacting the surface;

a first contact region P+ of the first conductivity type disposed in the first well, a second contact region N+ of the second conductivity type disposed in the second well region and being electrically connected to the first contact region to have a same potential,

a first trigger region N+ (just above NSCR1) of the second conductivity type disposed in the first well region and spaced apart from the first and second contact regions,

a third contact region P+ of the first conductivity type disposed in the second well region, a fourth contact region N+ of the second conductivity type disposed in the second well region and being electrically connected to the third contact region to have a same potential,

a second trigger region N+ (just above NSCR1) of the second conductivity type disposed in the second well region and spaced apart from the third and fourth contact regions,

the first trigger region being positioned such that no other similar region having the not having the second conductivity type lies between the first trigger region and the second trigger region, wherein the first trigger region is spaced apart from the bottom surface of the first well,

a separation region of the semiconductor material located only between the first and second trigger regions, the separation region contacting the surface, the first trigger region, and the second trigger region; and

a device region that overlies and contacts the surface at a location where the separation region contacts the surface between the first and second trigger regions, the device region at the location being free of a gate, and not lying below a gate (at a location where the source and drain regions are located).

the first and second trigger regions adjoin the semiconductor material.

Regarding claim 18, Ker et al. teach in figure 11 the dopant concentrations of the first and second trigger regions are greater than the dopant concentrations of the first well region and the second well region, respectively.

Regarding claims 13 and 14, the claimed limitations of a device wherein during first and second ESD events, first and third potentials on the first and second, and third and fourth, contact regions are greater than second and fourth potentials on the third and fourth, and first and second contact structures, respectively, are inherent in prior art's device.

Regarding claim 15, Ker et al. teach a semiconductor material has a top surface; the first well has a side surface that contacts the top surface, and a bottom surface that

contacts the side surface; and the first trigger region is spaced apart from the bottom surface.

Regarding claim 20, Ker et al. teach in figure 11 the first trigger region is not directly electrically connected to the third contact region and the second trigger region is not directly electrically connected to the first contact region.

Response to Arguments

Applicant's arguments with respect to claims 9 and 13-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(571) 272-1660**. The Examiner is in the Office generally between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956.**

O.N.
February 18, 2005

ORI NADAV
PRIMARY EXAMINER
TECHNOLOGY CENTER 2800